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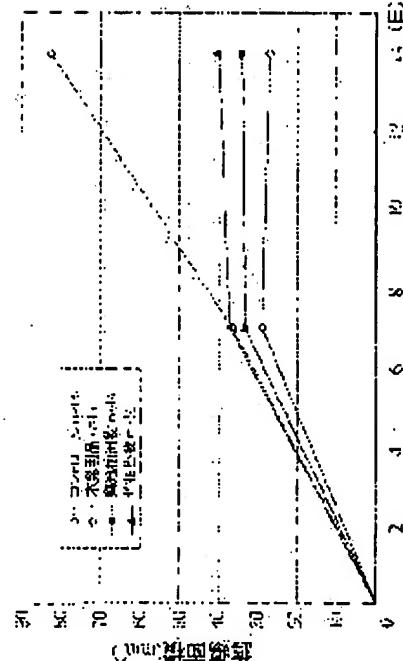
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## (54) HEALTH FOOD AND ORAL ANTITUMOR AGENT

(57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a health food excellent in health-maintaining function and an oral antitumor agent exhibiting an excellent antitumor activity by further reinforcing the antitumor activity of a hyaluronic acid-absorption food, although the hyaluronic acid-absorption food containing two substances of hyaluronic acid and a peptide is known to exhibit the excellent antitumor activity by researches until today.

**SOLUTION:** This health food contains at least three substances of hyaluronic acid, the peptide and a bamboo extract with an alcoholic solution. By taking the health food, an antitumor effect higher than that of the health food containing the two substances of hyaluronic acid and the peptide is exhibited.



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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[Field of the Invention]

[0001]

This invention relates to the antitumor agent for taking orally which demonstrates the health food and antitumor action for maintaining people's health.

[Background of the Invention]

[0002]

this invention person developed the food for hyaluronic acid absorption which has the protein which understood by the enzyme with the proteolytic enzyme and was made into the shape of PEPUTAITO, and hyaluronic acid, and already acquires the patent (patent reference 1 reference.).

Moreover, absorption of hyaluronic acid in the living body is shown in the patent reference 2 and 3 etc. besides the above-mentioned patent reference 1.

[Patent reference 1] The patent No. 2787254 official report

[Patent reference 2] JP,2000-102362,A

[Patent reference 3] JP,2002-356432,A

[Description of the Invention]

[Problem(s) to be Solved by the Invention]

[0003]

It has become clear that the above-mentioned food for hyaluronic acid absorption demonstrates the antitumor effectiveness which was excellent with old research. It is in offering the antitumor agent for taking orally which demonstrates the antitumor action which this invention was made so that it may strengthen further the antitumor effectiveness which consists in the food for hyaluronic acid absorption, the purpose offered the health food excellent in the health maintenance function, and was collectively excellent.

[Means for Solving the Problem]

[0004]

As indicated to claim 1, the health food which comes to contain at least 3 matter of the bamboo extract by hyaluronic acid, peptide, and the alcoholic solution is offered. In addition, said peptide is grasped as matter which hydrolyzed protein and raised absorptivity in the living body.

Moreover, as indicated to claim 2, said hyaluronic acid and peptide offer the health food according to claim 1 which carries out depolymerize of the crest of a bird and extracts it.

Moreover, as indicated to claim 3, said bamboo extract offers the health food according to claim 1 or 2 extracted with a water alcoholic solution.

Moreover, as indicated to claim 4, said bamboo extract offers the health food according to claim 3 extracted with the water alcoholic solution whose alcoholic concentration is 50% - 70%.

Moreover, as indicated to claim 5, said bamboo extract offers the health food according to claim 4 extracted with the water alcoholic solution whose alcoholic concentration is 60%.

Moreover, as indicated to claim 6, the antitumor agent for taking orally which makes an active principle

a part for claim 1 thru/or health food \*\*\*\*\* of any of 5 or one publication is offered.

[Effect of the Invention]

[0005]

According to the health food or the antitumor agent for taking orally of this invention, the antitumor effectiveness exceeding the antitumor effectiveness which consists in the health food containing hyaluronic acid and two matter of peptide is acquired, supplying hyaluronic acid to a tissue cell in the living body effectively. or [ therefore, / preventing advance of a malignant tumor (cancer) by carrying out an ingestion daily ] -- or there is effectiveness which may be made to improve.

[0006]

In addition, although the origin of hyaluronic acid and peptide does not require special limitation, it is good to carry out depolymerize of the crest of a bird and to extract it preferably. Abundant hyaluronic acid and moderate protein are contained in the crest of a bird, and the ideal combination of hyaluronic acid and peptide is simply acquired by carrying out depolymerize of this.

[Best Mode of Carrying Out the Invention]

[0007]

The concrete manufacture approach of the health food of this invention or the antitumor agent for taking orally is explained below.

[0008]

[Hyaluronic acid and peptide]

First, the crest of a bird is explained [ approach / of hyaluronic acid and the mixture of peptide / manufacture ] based on the process of following A-D about the case where it considers as a raw material.

A. Since the crest of a bird is usually frozen, it thaws this first. And the purified water which melted 0.1% of chlorine often washes the thawed crest. Next, the washed crest is used as minced meat with a minced meat machine.

B. Put minced meat into a reaction vessel, add caustic alkali of sodium of about 1 - 2% of concentration here, and leave it for about 15 hours. Minced meat swells up enough by this.

C. Carry out primary filtration on the screen of 50 meshes after adding a hydrochloric acid to the swollen minced meat, returning to PHs 7-8, adding a proteolytic enzyme slack protease 0.5% and carrying out zymolysis (hydrolysis) for about about 2.5 hours, add cerite 1% as a filter aid further for blinding prevention, and carry out secondary filtration through a 10-micron filter paper.

D. Activated carbon may be added to said filtered filtrate 0.5%, and agitate. With this activated carbon, filter the filtrate deodorized and decolorized through a 1 more-micron filter paper, remove activated carbon, and it is made to dry by freeze-dry, and grinds in the shape of powder.

[0009]

The powder made through the above-mentioned process carries out depolymerize of the crest of a bird, extracts it, and contains the peptide in which the protein contained in a crest carried out depolymerize, and the hyaluronic acid which carried out depolymerize to tens of thousands or less molecular weight. In addition, internal organs, such as an eyeball of an animal and a main artery, etc. are sufficient as the raw material used as hyaluronic acid and the origin of peptide in addition to the crest of a bird.

Moreover, hyaluronic acid and peptide may be manufactured from a mutually different raw material.

Moreover, it is not necessary to also limit especially the means of hydrolysis, and alkali hydrolysis etc. is sufficient besides the zymolysis by the proteolytic enzyme.

[0010]

[Bamboo extract]

Next, the manufacture approach of the bamboo extract by the alcoholic solution is explained. \*\*\*\* in which especially the classes, such as a black bamboo, a common Japanese bamboo, Phyllostachys pubescens, and Van Buu Tari (point of origin: Indonesia), were not limited, and the bamboo which becomes a raw material gathered up various bamboos is sufficient. Moreover, the bamboo shoot which is a chit, of course is sufficient as the grown-up bamboo, and any of a culm, a rhizome, and a leaf are sufficient also as the part to be used further again. A bamboo is good to process promptly after harvest

except for a bamboo shoot, when as fresh a thing as possible will be good in less than one year and it is a bamboo shoot after felling. However, if frozen preservation is carried out while it is fresh in any case, after prolonged progress is usable.

[0011]

Next, after rinsing a bamboo and removing an impurity, it is made the magnitude which grinds with a grinder and finally passes the screen of diameter extent of 10mm. What is necessary is just to make it become the magnitude whose die length is 3mm - 5mm in the case of a grinder without a screen. Next, it waits until it soaks a 1kg grinding bamboo in a 10kg alcoholic solution or a water alcoholic solution (50% - 70% of alcoholic concentration [ Preferably ], most preferably 60%) and a color fully comes out. A period for that is about six months in ordinary temperature. Moreover, when it heats at about 60 degrees C, it is good in about 2 hours.

[0012]

Next, a centrifugal separator separates solid-liquid and the liquids which are the alcoholic extracts of a bamboo are collected, and it condenses until it becomes 20% of weight, heating the liquid at 60 degrees C. Add the starch of solid content equivalence to the extract of this condensed bamboo, and it is made to dry by freeze-dry, and is made powder.

[0013]

If the powder which has said hyaluronic acid and peptide is mixed to the powder of the bamboo extract manufactured as mentioned above, the health food or the antitumor agent for taking orally of this invention will be made. In addition, what kind of thing is sufficient as a solid, powder, granulation, a liquid, etc., and you may make it the gestalt of health food or the antitumor agent for taking orally add other components, such as a vitamin, to said powder. although especially the mixed rate of two powder is not limited -- desirable -- 1:1 -- or it is good to make a bamboo extract fewer than it. Moreover, although it is not necessary to limit also about intake, as a rough standard in case an adult takes in, 200mg or more per day is suitable.

[Example 1]

[0014]

[Antitumor experiment 1]

The following experiments were conducted in order to check the antitumor effectiveness of the health food (or antitumor agent for taking orally) of this invention. In addition, the extract approach of hyaluronic acid and peptide is as above-mentioned (the powder manufactured in this way is called crest extract in this experiment.), and the bamboo extract by the alcoholic solution was manufactured as follows.

That is, vacuum concentration (50 degrees C) of the liquid which soaked the body (part usually made edible in the part of the contents which stripped the hide) of a bamboo shoot in the water ethanol solution whose ethanol concentration is 60%, and heated it for 60 degree-Cx 2 hours, then was extracted is filtered and carried out, it was dried (60 degrees C), and it was made powder.

The powder of the above bamboo extract and the powder of said crest extract were mixed at a rate of 1:1, and this invention article was obtained. and general as experimental diet -- feed, its thing which usually mixed 1% of this invention article with feed, said thing which usually mixed 1% of crest extract with feed, and said thing which usually mixed 1% of bamboo extract with feed were usually prepared, respectively.

Next, 1x10<sup>6</sup> ascites tumor cells (sarcoma-180) were transplanted to hypodermically [ \*\*\*\* neck ] to the 5-weeks old ICR mouse (maleness), the mouse which divided into four groups four sorts of experimental diet described above from this cell transplantation that day was made to carry out free intake only of one sort of each groups, the magnitude of a neoplasm was measured biweekly, and neoplasm area was computed.

The experimental result is shown in drawing 1. The health food (or antitumor agent for taking orally) of this invention has usually checked demonstrating the antitumor action superior to the feed which nothing mixes and which mixed the crest extract and the bamboo extract independently, respectively as well as feed so that clearly from this experimental result.

In addition, although the bamboo extract independent by the alcoholic solution demonstrates antitumor action so that clearly from drawing 1 The bamboo extract independence which changed and extracted alcoholic concentration, the bamboo extract independence which changed and extracted the class of bamboo, The result of having conducted the same experiment as the above by the bamboo extract independence which also extracted the bamboo of the same kind in the periphery section and the inner circumference section of a culm, and the bamboo extract independent which were extracted with hot water, When the antitumor effectiveness with stronger using the alcoholic solution which contained [ rather than ] water 100% using the alcoholic solution of concentration was demonstrated and the water alcoholic solution especially whose alcoholic concentration is 60% was used, demonstrating the strongest antitumor effectiveness was checked. What was extracted with the water alcoholic solution as a bamboo extract mixed from this experimental result to a crest extract, the thing extracted with the water alcoholic solution whose alcoholic concentration is 50% - 70%, and the thing extracted with the water alcoholic solution whose alcoholic concentration is 60% are more desirable. Moreover, in the case of the body of Phyllostachys pubescens and a bamboo shoot, and a bamboo of the same kind, especially the periphery section of the completed culm is desirable in a bamboo similarly. Effective antitumor action was not able to be checked in the bamboo extract independent incidentally extracted with hot water.

[0015]

[Antitumor experiment 2]

The common usual feed by Japanese Clare as experimental diet, the thing which mixed this invention article same in feed as said experiment 1 1%, and said thing which usually mixed 1% of crest extract with feed were usually prepared.

Next, 1x10<sup>6</sup> ascites tumor cells (sarcoma-180) were transplanted to hypodermically [ right-lower-quadrant-of-abdomen ] to the 5-weeks old ICR mouse (maleness), the mouse which divided into three groups (20 per group) three sorts of experimental diet described above from this cell transplantation that day was made to carry out free intake only of one sort of each groups, a neoplasm was extracted after transplantation on the 28th, and that weight was measured.

The result is shown in drawing 2. The health food (or antitumor agent for taking orally) of this invention has usually checked demonstrating the antitumor action superior to the feed which nothing mixes and which mixed only the crest extract as well as feed so that clearly from this result.

[0016]

Although the gestalt of operation of this invention was explained above, of course, this invention is not limited to the above-mentioned operation gestalt. For example, although ethanol was used as an alcoholic solution for obtaining a bamboo extract with the operation gestalt, methanols etc. may be other alcoholic solutions. Moreover, although alcoholic concentration used the water alcoholic solution which is 60% with the operation gestalt, when fertilizing, the water alcoholic solution of 50% - 70% of alcoholic concentration may be used.

[Brief Description of the Drawings]

[0017]

[Drawing 1] It is the graph which shows an experimental result.

[Drawing 2] It is the graph which shows an experimental result.

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**TECHNICAL FIELD**

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[Field of the Invention]

[0001]

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**PRIOR ART**

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[Background of the Invention]

[0002]

this invention person developed the food for hyaluronic acid absorption which has the protein which understood by the enzyme with the proteolytic enzyme and was made into the shape of PEPUTAITO, and hyaluronic acid, and already acquires the patent (patent reference 1 reference.). Moreover, absorption of hyaluronic acid in the living body is shown in the patent reference 2 and 3 etc. besides the above-mentioned patent reference 1.

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**EFFECT OF THE INVENTION**

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**[Effect of the Invention]****[0005]**

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention]

[0003]

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**MEANS**

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**[Means for Solving the Problem]****[0004]**

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